North American Waterfowl Management Plan

REPORT ON CANADIAN FIRST STEP PROJECTS

FOR THE 1988 TO 1990 PERIOD

North American Wetlands Conservation Council (Canada)

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FOR THE 1988
TO 1990 PERIOD

NAWCC (Canada)
Report No. 91-1

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First Step Partners have included:

- Canadian Wildlife Service
- Ducks Unlimited Canada
- Ducks Unlimited Incorporated
- International Association of Fish and Wildlife Agencies
- National Fish and Wildlife Foundation
- Nature Conservancy of Canada
- Prairie Farm Rehabilitation Administration
- Saskatchewan Wildlife Federation
- Souris Wildlife Association (PEI)
- The Provinces of Alberta, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Quebec, and Saskatchewan
- The States of Arkansas, California, Colorado, Illinois, Missouri, New Jersey, New York, Oklahoma, Oregon, South Carolina, Tennessee, and Texas
- Wildlife Habitat Canada
- Numerous cooperating landowners, individuals, and agencies

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EXECUTIVE SUMMARY

In 1988, in order to get the North American Waterfowl Management Plan (NAWMP) going "on the ground" and to demonstrate international partnerships in action in Canada, seven **First Step Projects** were initiated. Two of these projects have been undertaken through the Prairie Habitat Joint Venture (PHJV) and five through the Eastern Habitat Joint Venture (EHJV).

The following report outlines the goals, benefits and status of each of these First Step Projects. Since initiation, a total of CDN$ 9.47 million have been expended on these projects, with CDN$ 5.13 million from Canadian sources and CDN$ 4.34 million from United States sources. A total area of 17 735 acres of critical wetland and upland habitat have been secured and a total of 8 371 acres for waterfowl habitat developed. Habitat securement is now complete for two of these First Step Projects (the Grovepine/Big Brook Project in Prince Edward Island and the Salt Marsh Protection Project in Nova Scotia). Habitat securement in the other five First Step Projects and development and/or management activities in all seven projects are continuing.

THE NORTH AMERICAN WATERFOWL MANAGEMENT PLAN

In 1986, the Canadian and United States federal governments signed the **North American Waterfowl Management Plan (NAWMP)** which brings together international teams of experts and natural resource managers from federal, provincial, territorial and state government agencies as well as private conservation organizations and individuals. Partnerships called **Habitat Joint Ventures** are working to restore waterfowl and migratory bird populations and habitats in one of the world's most ambitious and extensive land use plans ever developed. It will affect over 5.9 million acres (2.4 million ha) of priority wetland and upland habitats through the cooperation of three nations - Canada, the United States and Mexico during the period 1988 to 2003. It involves over 200 participating organizations and will involve a total budget in excess of CDN$ 1.5 billion during its implementation.

The NAWMP is a visionary and timely undertaking involving thousands of participants and building upon decades of committed and effective work by the public and private sectors in all three nations. The NAWMP focuses on the conservation and rejuvenation of wetlands on both private and public lands through the implementation of Habitat Joint Venture plans, programs, and projects, all of which are aimed at the fulfilment of the goals and objectives of the NAWMP. There are currently three Habitat Joint Ventures underway in Canada:

(a) the Eastern Habitat Joint Venture (EHJV) (initiated 1989)
(b) the Prairie Habitat Joint Venture (PHJV) (initiated 1989)
(c) the Pacific Coast Joint Venture (PCJV) (initiation mid-1991).

Each Canadian Habitat Joint Venture involves a series of projects within targeted priority areas of large portions of Canada such as the Great Lakes, St. Lawrence Valley, the Bay of Fundy and Atlantic salt marshes, the central prairie and aspen parkland of western Canada, and the estuaries of coastal British Columbia. Habitat Joint Ventures are also targeted on areas in the United States such as the prairie potholes of the mid-western states, the Central Valley of California, the Playa Lakes centred on Texas and Oklahoma, the Gulf Coast including that of Louisiana, the Lower Mississippi Valley, and the Atlantic Coast of the eastern seaboard. Cooperative international **Species Joint Ventures** on specific wildlife populations such as Arctic Goose and Black Duck have also been created through the NAWMP to fill knowledge gaps and to guide the activities of the Habitat Joint Ventures.

Joint Ventures are managed in Canada by **Habitat Joint Venture Boards** receiving guidance from Provincial Steering Committees in all Canadian provinces. Newfoundland, Prince Edward Island, Quebec, New Brunswick, Nova Scotia and Ontario are represented on the **Eastern**

Habitat Joint Venture Management Board. Similarly, Alberta, Saskatchewan and Manitoba provide guidance to the **Prairie Habitat Joint Venture Advisory Board,** and British Columbia is a participant in the **Pacific Coast Joint Venture Management Board.**

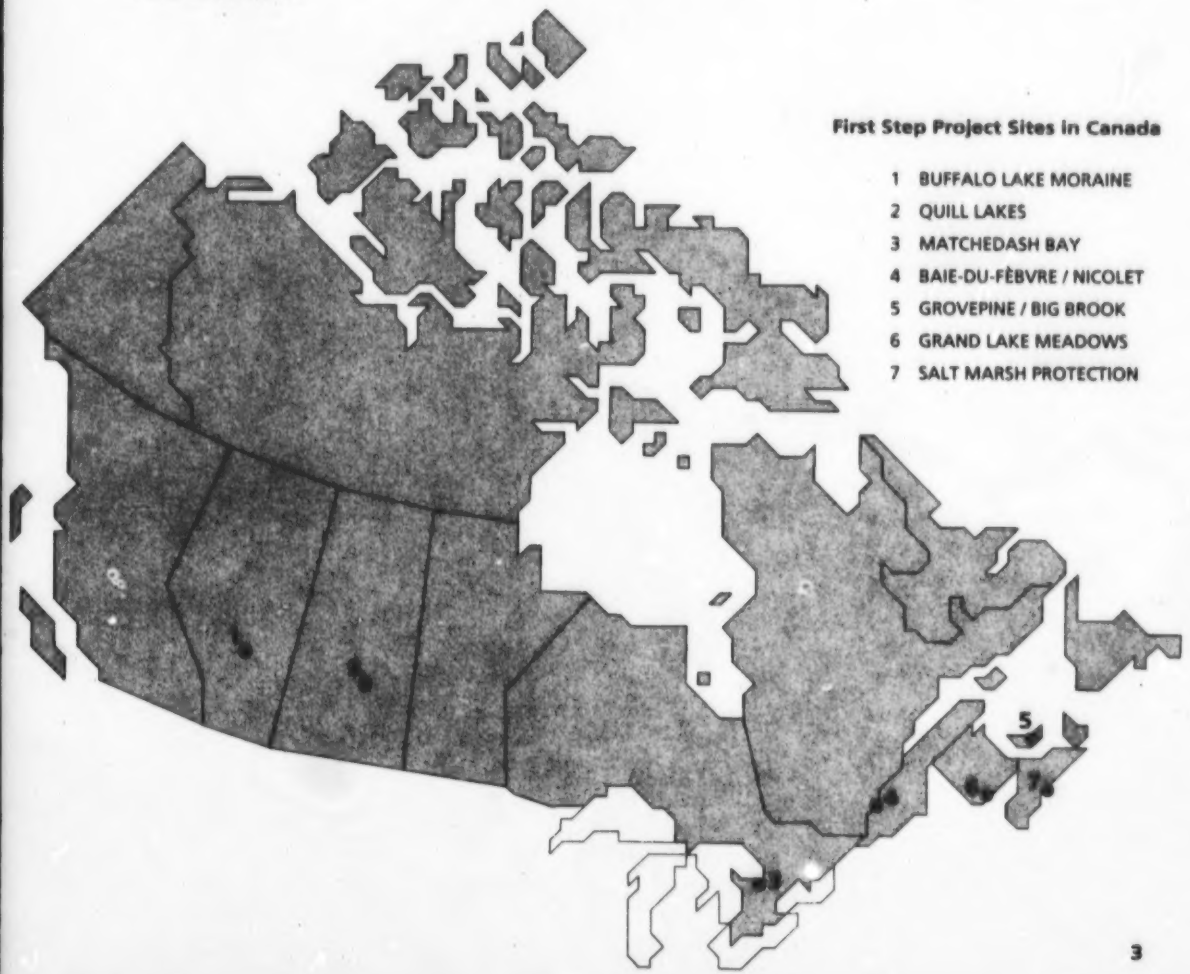
The Habitat Joint Venture Boards report to the **NAWMP Committee for Canada** and to the **North American Wetlands Conservation Council (NAWCC) (Canada).** The NAWCC (Canada) is the senior Canadian body that advises the Federal Minister of the Environment on all aspects of the development, coordination, and implementation of the NAWMP and wetland conservation initiatives of national or international scope. It also advises on the funding and evaluation of proposals for Habitat Joint Venture projects that are brought to the **North American Wetlands Conservation Council (NAWCC) (USA)** and the **Migratory Bird Conservation Commission (MBCC)** of the United States Congress for funding approval under the North American Wetlands Conservation Act (1989).

The **International Association of Fish and Wildlife Agencies (IAFWA) ad hoc Committee on NAWMP Implementation** was established in 1986 at the request of the IAFWA President to assist in the implementation of the NAWMP which had been signed by the Governments of Canada and the United States in May of that year. Of specific interest was the implementation of First Step NAWMP projects in Canada, particularly the Quill Lakes Project. The Committee was charged with identifying ways of obtaining funding for the Plan. It was also to work with the **Legislative Committee** of the IAFWA to seek Congressional authorization to make the funds available. In this regard, the Committee on NAWMP Implementation was directed to further develop the funding proposal involving state, private sector, National Fish and Wildlife Foundation, Ducks Unlimited Incorporated, and Canadian funds which become known as the **First Step Partnership.** It was also the role of this Committee to advise the IAFWA on any and all matters pertaining to implementation of the NAWMP. In March 1991, the ad hoc status of this Committee was dropped and full committee status granted in light of its continuing role in NAWMP implementation and funding activities.

The **North American Waterfowl Management Plan Committee** serves as the international board of directors for the Plan. This group provides policy recommendations to the government agencies charged with implementing the NAWMP. It monitors and updates the Plan, coordinates current work, reviews new proposals, and approves Habitat Joint Ventures. It provides an international forum for raising technical issues affecting the accomplishment of Plan objectives by appropriate agencies.

THE FIRST STEP PROJECTS

In 1988, in order to get the NAWMP underway and to demonstrate international partnerships in action, seven **First Step Projects** were initiated. The general locations of these projects in Canada are shown on the map below. Two of these projects have been undertaken through the Prairie Habitat Joint Venture (PHJV) and five through the Eastern Habitat Joint Venture (EHJV).



The PHJV First Step projects are:

(1) Buffalo Lake Moraine, Alberta

(2) Quill Lakes, Saskatchewan

The EHJV First Step projects are:

(3) Matchedash Bay, Ontario

(4) Baie-du-Fèbvre/Nicolet, Quebec

(5) Grovepine/Big Brook, Prince Edward Island

(6) Grand Lake Meadows, New Brunswick

(7) Salt Marsh Protection, Nova Scotia.

This report presents a project description, a synthesis of the goals of each project and benefits derived or anticipated, an overview of long-term management for the project area and accomplishments to the end of December 1990, and a list of the partners in each project with a financial expenditures summary by project. Summaries of total acreage of habitat securement and development (Table 1), total expenditures to December 31, 1990 (Table 2), and remaining funds committed to 1991 expenditures (Table 3) are presented at the end of this report. The time period covered for most of these projects is September 1988 to December 31, 1990; however, the Quill Lakes Project information that is presented covers the period from December 1987 to the end of December 1990.

As summarized below, habitat securement objectives for two of these First Step Projects (the Grovepine/Big Brook Project in Prince Edward Island and the Salt Marsh Protection Project in Nova Scotia) are now completed while continuing in the other five projects. Habitat development and management are ongoing in all seven of these First Step Projects.

This report reflects contributions only for First Step initiatives under NAWMP. Other funds and supporting activities by various partners have also been expended for the implementation of Second Step initiatives and other ongoing elements of the overall NAWMP in Canada. The relative percentages of Canadian and United States contributions to the total contributions for each Joint Venture project are noted on tables accompanying each section that follows.

STATUS OF FIRST STEP PROJECTS

Project	Habitat Securement/ Management	Habitat Development
(1) Buffalo Lake Moraine, Alta.	Continuing	Ongoing
(2) Quill Lakes, Sask.	Continuing	Ongoing
(3) Matchedash Bay, Ont.	Continuing	Ongoing
(4) Baie-du-Fèbvre/Nicolet, Que.	Continuing	Ongoing
(5) Grovepine/Big Brook, PEI	Completed	Ongoing
(6) Grand Lake Meadows, NB	Continuing	Ongoing
(7) Salt Marsh Protection, NS	Completed	Ongoing

Canadian contributors to these projects include the Canadian Wildlife Service of Environment Canada, seven Provincial Governments, Ducks Unlimited Canada, Wildlife Habitat Canada, and a variety of other groups. The contributions of these partners, totalling over CDN$ 5.13 million are listed below:

Canadian Wildlife Service, Environment Canada	CDN$ 2 004 348
Ducks Unlimited Canada	1 624 400
Nature Conservancy of Canada	*Staff Support*
Prairie Farm Rehabilitation Administration	62 400
Province of Alberta	144 370
Province of New Brunswick	52 000
Province of Nova Scotia	6 413
Province of Ontario	314 300
Province of Prince Edward Island	129 860
Province of Quebec	138 900
Province of Saskatchewan	274 202
Saskatchewan Wildlife Federation	75 000
Souris Wildlife Association (PEI)	5 000
Wildlife Habitat Canada	300 208
	CDN$ 5 131 371

United States contributors to these projects have included twelve State Governments, Ducks Unlimited Incorporated, and the National Fish and Wildlife Foundation. The financial contributions of these partners, totalling over CDN$ 4.33 million (US$ 3.65 million), are listed below (in US$):

Ducks Unlimited Incorporated	US$ 1 000 000
National Fish and Wildlife Foundation	1 750 000
State of Arkansas	100 000
State of California	150 000
State of Colorado	50 000
State of Illinois	100 000
State of Missouri	100 000
State of New Jersey	50 000
State of New York	100 000
State of Oklahoma	50 000
State of Oregon	50 000
State of South Carolina	50 000
State of Tennessee	100 000
State of Texas	100 000
	US$ 3 650 000
	(CDN$ 4 336 961)

ACCOMPLISHMENTS: PRAIRIE HABITAT JOINT VENTURE

BUFFALO LAKE MORAINE, ALBERTA

Project Description – The 528 sq. mi. Buffalo Lake Moraine project area is mainly classified under the Canada Land Inventory (CLI) as Class 1 waterfowl production capability land. It has wetland densities often exceeding 100/sq.mi., with an average of 45 wetlands/sq.mi. There is an excellent distribution of permanent and non-permanent wetlands. Buffalo Lake is provincially designated as a Wetlands for Tomorrow site and it is one of Alberta's top waterfowl breeding, molting, and staging areas. Densities for upland nesting ducks, especially Mallard, exceed 100 breeding pairs/sq.mi. The area also supports an expanding population of Canada Goose. The rolling knob and kettle topography supports a wide variety of other wildlife in an aspen woodland setting. However, the area's production capability has been degraded by agricultural land use practices over many years.

Buffalo Lake Moraine Area, Alberta

Photo: J. Brunen, PHJV

Goals – This First Step Project established three long-term goals as listed below. Habitat securement, development and management are ongoing.

(1) Increase waterfowl recruitment in the project area.

(2) Promote habitat benefits to waterfowl and other game and non-game wildlife.

(3) Promote sound conservation farming practices that prevent soil erosion and provide sustainable agriculture.

Benefits of Project – During the 1989 to 1990 period, 14 of the 16 parcels of acquired lands were seeded by a variety of methods to develop dense nesting cover areas. All properties have also been fenced to restrict traffic and unauthorized grazing. Weed control is undertaken by mowing after the nesting period. One test plot using electrified predator-fencing is undergoing evaluation.

Two conservation farming programs have been implemented in the project area as alternatives to traditional summer fallow practices. The number of cooperating landowners involved in a Chemical Fallow Program almost doubled from 1989 to 1990. It had 10 co-operating landowners in 1989 and 19 more in 1990, affecting 2740 acres in total. The Underseed Legume Program had two cooperating landowners in 1989 and four additional in 1990, affecting a total of 460 acres.

A total of 450 small nesting islands were constructed in wetlands secured by land purchase or owned by cooperating landowners, especially on wetlands not involved in other program options. This involves 10 to 30-year Registered Conservation Agreements or 50-year Licences of Occupation. The nesting islands are being heavily used by Canada Goose, Coot, Franklin's Gull and various duck species.

Two pre-existing crop damage prevention Feeding Stations were supplemented in 1989 by a third station. The Alberta Fish and Wildlife Division has established waterfowl monitoring transects across the project area. An existing building on one parcel is now being used as a field station for ongoing waterfowl and agricultural research by various agencies.

Long-term Management – Property management and maintenance will be the major activity in 1991. Signage placement and seeding of remaining parcels are underway. The Chemical Fallow Program is expected to cover 6000 acres by 1992. Some nesting islands which have been overly grazed by birds or have suffered muskrat and/or wave damage will require revegetation and maintenance in 1991. The third on-site Feeding Station is planned to be in place through the year 2003.

Accomplishments to December 31, 1990:

(a) Upland Habitat Securement - 2532 acres.

(b) Conservation Farming Programs have involved 35 cooperating landowners affecting 3200 acres.

(c) 450 Small Nesting Islands were constructed, exceeding the target of 265 sites, and indirectly securing 2674 acres of wetlands.

(d) 62 miles of breeding pair and brood survey monitoring transects are now established across the area.

PARTNERS	CONTRIBUTIONS (CDN$)
Canadian Wildlife Service	312 030
Province of Alberta	144 370
Private Sector:	
Ducks Unlimited Canada	(8 980)*
Canadian Contributions (Subtotal)	447 420 (28%)**
United States Contributions	1 156 610 (72%)
Total (CDN$)	**$ 1 604 030**

* The negative value here indicates a commitment of funds reimbursed beyond the reporting period.

** Percent of total contributions.

QUILL LAKES, SASKATCHEWAN

Nest basket at Quill Lakes, Saskatchewan

Photo: Saskatchewan Wetland Conservation Corporation

Project Description – The Quill Lakes Project area covers 20 rural municipalities totalling over 7020 sq.mi. in east-central Saskatchewan stretching generally from Yorkton in the east to Raymore in the west and north to Rose Valley. The area is one of the most important nesting and production areas for waterfowl in North America and is the most important area in Saskatchewan for migrating shorebirds. However, land use practices have degraded wetlands and associated uplands, seriously lowering waterfowl nesting success and production. The project focuses on habitat protection and changing agricultural land use practices through nesting cover, crop damage prevention and cropping practices. These programs will directly benefit waterfowl such as Mallard, Pintail, and Blue-winged Teal; other bird species including shorebirds, Sharp-tailed Grouse, and Hungarian Partridge; endangered species such as Piping Plover, White Pelican, and Whooping Crane; and other wildlife such as white-tailed deer and muskrat. The Quill Lakes area is recognized as a Saskatchewan Heritage Marsh.

Goals – This First Step Project established six long-term goals as listed below. Habitat securement, development and management are ongoing.

(1) Secure, develop, and manage dense nesting cover plots, some with predator exclusion fences, in order to increase nesting success and overall waterfowl production.

(2) Secure, develop, and manage a large wetland complex in the southeast quadrant of the Quill Lakes - Mount Hope Heritage Marshes to improve staging, molting, and production of waterfowl and other migratory bird species.

(3) Establish and operate a crop damage prevention site to reduce the need for claims by local landowners from the waterfowl damage compensation program.

(4) Erect 1500 Mallard nest baskets in wetlands to increase nesting success and overall waterfowl production.

(5) Promote conservation farming techniques beneficial to waterfowl production.

(6) Develop a planned grazing system beneficial to waterfowl production and cattle at the Mount Hope - Prairie Rose Prairie Farm Rehabilitation Administration (PFRA) Pasture.

Benefits of Project – In addition to over 8600 acres of habitat secured mainly through direct acquisition, an extensive area has now been seeded for dense nesting cover. Eight sites in the Touchwood Hills area now have habitat directly protected by electrified predator fences. A dyke in excess of a mile in length was constructed on the Little Quill Restriction as part of the Quill Lakes Heritage Marsh system. This has resulted in two other components of this Heritage Marsh, the Campbell and Jesmer Projects, being initiated in 1989. A crop damage prevention site in the centre of the Heritage Marsh development area and a second feeding station have been established. The majority of the planned 1500 nest baskets in the Touchwood Hills and Beaver Hills areas are now in place. As of the end of 1989, 44 landowners had enrolled in the Underseed Fallow Program covering 2850 acres of private lands. This program was expanded in 1990. Joint agriculture and wildlife initiatives are being delivered that will promote conservation farming and improved range management on both private and public lands. Securement and management of large wetlands around the Quill Lakes are leading to improved staging, molting, and production habitat for targeted species including Mallard, Canvasback, Redhead, Blue-winged and Green-winged Teal, and Wigeon as well as several endangered species.

Long-term Management – A Communications/Public Awareness Plan has been implemented successfully. Ongoing analysis of issues, liaison with targeted public groups, and a strong Media Relations Strategy have placed the Project in a positive and respected position locally, nationally, and internationally. A Land Management Committee is being established with representatives of participating agencies. Long-term operation and management will remain the responsibility of partner agencies (e.g. pastures - Prairie Farm Rehabilitation Administration; dense cover and water management - Ducks Unlimited Canada; crop damage prevention - Saskatchewan Parks and Renewable Resources).

Accomplishments to December 31, 1990:

(a) Upland and Wetland Habitat Securement - 8601 acres

(b) Upland Habitat Development - 7784 acres*

* An additional area of habitat development encompassing 25 629 acres undertaken by the Prairie Farm Rehabilitation Administration (PFRA) is associated with but not directly part of the Quill Lakes Project. This acreage is not included in the overall figures reported in Table 1 at the back of this report.

PARTNERS	CONTRIBUTIONS (CDN$)	
Canadian Wildlife Service	811 418	
Prairie Farm Rehabilitation Administration	62 400	
Province of Saskatchewan	274 202	
Private Sector:		
Ducks Unlimited Canada	1 257 849	
Saskatchewan Wildlife Federation	75 000	
Wildlife Habitat Canada	182 977	
Canadian Contributions (Subtotal)	2 663 846	(57%)**
United States Contributions	2 015 583	(43%)
Total (CDN$)	**$ 4 679 429**	

* Percent of total contributions.

MATCHEDASH BAY, ONTARIO

Project Description – The Matchedash Bay project area is located at the south-east end of Severn Sound on Georgian Bay. It was chosen because it is a high risk area for wetland habitat loss, has high potential for production of waterfowl and other wetland-dependent wildlife, is a critical staging area for migrating waterfowl, and development and management of this area for waterfowl is highly compatible with other existing wetland values and uses. The area has a wide range of fish, waterfowl and wildlife including the greatest diversity of amphibians and reptiles known in Canada. The project area covers a total of 5381 acres and includes a Provincial Area of Natural and Scientific Interest. The area also includes several Class 1 and 2 wetlands as identified in the Ontario Wetland Evaluation Program.

Matchedash Bay Project Area, Ontario

Photo: K. McAloney, EHJV

Goals – This First Step Project established four long-term goals as listed below. Habitat securement, development and management are ongoing.

(1) Secure and manage 4239 acres of wildlife habitat in the project area and integrate other important resource interests.

(2) Restore and develop 3527 acres of habitat for waterfowl and other wetland-dependent wildlife in the area.

(3) Increase waterfowl production in the flyways through maintaining and enhancing 1091 acres of habitat for staging waterfowl.

(4) Produce 2450 waterfowl including 880 Mallard, 210 Black Duck, and 1360 other waterfowl of various species.

Benefits of Project –The project will protect this important production and staging area from pressures for marina, cottage and drainage developments as well as other activities that are not compatible with wetlands conservation. Securement and management of this area will also lead to protection of 568 species of vascular plants (of which 20 are of provincial or regional significance); 20 species of waterfowl that use the area in spring or fall periods; 150 species of other birds including wetland breeders such as Least Bittern, American Bittern, Sora, Black Tern, Pied-billed Grebe, American Coot, Virginia Rail, Common Moorhen, Marsh Wren, Sedge Wren, and local visitors such as Double-crested Cormorant, Osprey, and Caspian Tern; 28 species of mammals; 17 species of amphibians and reptiles including map turtle, Blanding's turtle, and five-lined skink; and 34 species of fish (including northern pike, muskellunge, largemouth bass, black crappie, and yellow perch). These fish either spawn in the area or use it as a migration corridor to spawning sites in two rivers which feed the bay — the latter includes walleye, salmon, and trout.

Long-term Management – A Management Plan has been prepared for the area with considerable public input and support. This approved plan serves as an official expression of the Ontario Ministry of Natural Resources Policy for the Matchedash Bay area. The plan provides for the dedication of over 2000 acres of provincial crown land to the goals of the North American Waterfowl Management Plan.

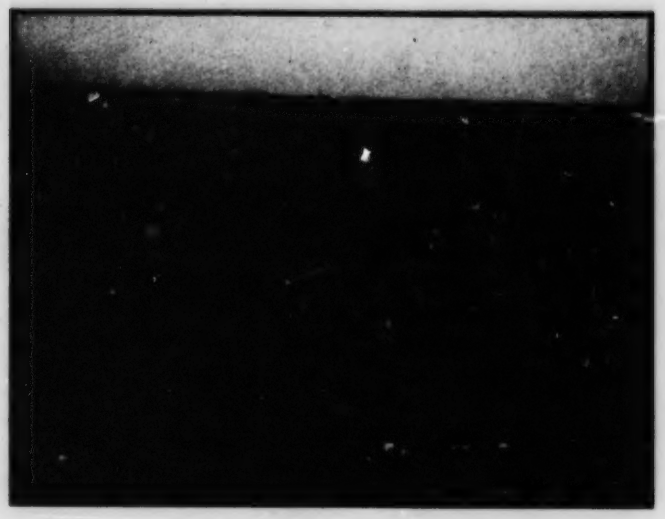
Accomplishments to December 31, 1990:
(a) Habitat Securement - 1199 acres.

PARTNERS	CONTRIBUTIONS (CDN$)
Canadian Wildlife Service	663 500
Province of Ontario	314 300
Private Sector:	
Ducks Unlimited Canada	42 200
Nature Conservancy of Canada	*Staff Support*
Wildlife Habitat Canada	25 000
Canadian Contributions (Subtotal)	1 045 000 (59%)*
United States Contributions	731 100 (41%)
Total (CDN$)	**$ 1 776 100**

* Percent of total contributions.

BAIE-DU-FÈBVRE/NICOLET, QUEBEC

Project Description – The Baie-du Fèbvre/Nicolet project area is a complex of floodplain habitats on the south shore of Lac Saint-Pierre along the St. Lawrence River. It is the most important spring staging area for waterfowl in Quebec. Dyking for exclusive agricultural use has threatened to reduce waterfowl and fish habitat.



Baie-du-Fèbvre/Nicolet Project Area, Quebec
Photo: R. Sarrazin, EHJV

Goals – This First Step Project established two long-term goals as listed below. Habitat securement, development and management are ongoing.

(1) Secure 1450 acres of prime floodplain habitat for existing breeding and migrating waterfowl and other-related wildlife populations.

(2) Through construction of impoundments and water-level control structures, develop suitable portions to increase wildlife (birds and fish) and agricultural production including 530 acres for both staging waterfowl and agriculture, 460 acres for fish habitat, and 250 acres for breeding waterfowl.

Benefits of Project – Securement of the area will ensure spring migration habitat for some 25 000 Canada Goose, 100 000 Snow Goose, 2000 dabblers (mostly Pintail, Mallard, Black Duck and Green-winged Teal). Habitat development will increase breeding populations of these dabblers. Several species of shorebirds also found in the area, including half of the breeding pairs (25) of Wilson's Phalarope nesting in Quebec, will be protected. The floodplain is also used as spawning and nursery areas for some 20 species of bait, sport and commercial fish, including northern pike and perch.

Long-term Management – A Project Management Plan has been endorsed by all participating agencies. Following completion of the securement phase of this project, it is expected that the area will be declared a Provincial Wildlife Refuge in order to control activities such as public access for hunting and trapping, and to facilitate interpretation.

Accomplishments to December 31, 1990:
(a) Habitat Securement - 865 acres.

PARTNERS	CONTRIBUTIONS (CDN$)	
Quebec Habitat Agreement*:		
Canadian Wildlife Service	72 400	
Province of Quebec	138 900	
Private Sector:		
Ducks Unlimited Canada	106 940	
Wildlife Habitat Canada	55 360	
Canadian Contributions (Subtotal)	373 600	(65%)**
United States Contributions	197 300	(35%)***
Total (CDN$)	**$ 570 900**	

* $ 39 100 of Quebec Habitat Agreement funds remain to be spent on land acquisition and conservation easements.

** Percent of total contributions.

*** $ 75 700 of United States contributions remain to be spent on land acquisition.

GROVEPINE/BIG BROOK, PRINCE EDWARD ISLAND

Project Description – The Grovepine/Big Brook project area is a mix of coniferous forest, stream-side meadows, and brackish marshes in the drainage area of the Fortune River in eastern Kings County. Prior to becoming a NAWMP project, 1223 acres were privately owned and on the open market for sale. Possible conflicting land uses resulting from a sale to private or corporate interests included intensive forestry operations, tourist development, and use as a fishing reserve. The area is deemed one of the most critical waterfowl areas in Prince Edward Island.

Goals – This First Step Project established three short-term goals as listed below. Land securement goals have been completed with management and development ongoing.

(1) Consolidate a 1900-acre block of wildlife lands including 500 acres of wetlands.

(2) Develop suitable portions of the area to increase production of Black Duck and other wetland wildlife.

(3) Manage beaver ponds in the area to enhance waterfowl and speckled trout production.

Grovepine/Big Brook Project Area, Prince Edward Island

Photo: K. McAloney, EHJV

Benefits of Project – Securement of the area ensures the protection of existing breeding habitat for Black Duck, Green-winged Teal, Snipe, Woodcock, and Ruffed Grouse as well as brackish water habitats used by migrating Canada Goose, Black Duck and sea-trout. Government ownership has facilitated habitat development and enhancement to increase breeding populations of wetland-related wildlife.

Long-term Management – A Project Management Team has been established consisting of members of all participating agencies. A 15-year Management Plan has been completed and approved for the project area. Future actions will include designation of the area as a Provincial Wildlife Management Area.

Accomplishments to December 31, 1990:

(a) Habitat Securement:		
Purchase from Private Owner	1223	acres
Transfers from Government Agencies	640	acres
Upland Conservation Agreements	52	acres
Wetland Conservation Agreements	16	acres
Total Habitat Securement	**1931**	**acres**
(b) Habitat Development:		
Impoundments (two)	66	acres
Level Ditching	16	acres
Upland Management (Nesting Cover, Nest Boxes)	232	acres
Total Habitat Development	**314**	**acres**

PARTNERS	CONTRIBUTIONS (CDN$)	
Canadian Wildlife Service	83 000	
Province of Prince Edward Island	*(Land Value)* 129 860	
Private Sector:		
Ducks Unlimited Canada	113 700	
Souris Wildlife Association (PEI)	5 000	
Wildlife Habitat Canada	*Staff Support*	
Canadian Contributions (Subtotal)	329 460	(76%)*
United States Contributions	102 000	(24%)
Total (CDN$)	**$ 431 460**	

*Percent of total contributions.

GRAND LAKE MEADOWS, NEW BRUNSWICK

Project Description – The Grand Lake Meadows project area is a complex of diverse floodplain habitats including open lakes, sedge meadows, flooded hardwood swamps, and oxbow ponds. This area also has some agricultural use of higher interval lands between the river and the meadows. The area is deemed one of the most valued waterfowl production areas in New Brunswick. It is the site of the only colony of Yellow Rail in Maritime Canada.

Grand Lake Meadows along St. John River, New Brunswick

Photo: K. McAloney, EHJV

Goals – This First Step Project established three long-term goals as listed below. Habitat securement, development and management are ongoing.

(1) Secure 3100 acres of valuable floodplain habitat to support existing breeding and migrating wildlife populations.

(2) Develop suitable portions to increase wildlife production.

(3) Secure the entire 12 000 acres of Grand Lake Meadows over a 15-year period and have it declared a Provincial Wildlife Management Area.

Benefits of Project – Securement of the area has ensured the protection of existing breeding habitat for Black Duck, Goldeneye, Wood Duck, Osprey, Bald Eagle and Black Tern and wintering habitat for moose and deer as well as the spring migration habitat for dabblers and Canada Goose. Government ownership will facilitate future habitat development to increase breeding populations.

Long-term Management – Following the completion of the acquisition phase of the project, the area is proposed to be declared a Provincial Wildlife Management Area. A Management Plan is currently being formulated and will include additional impoundments and nesting structures and design for public access to facilitate interpretation.

Accomplishments to December 31, 1990:

(a) Land Acquisition	2350	acres
Total Habitat Securement	2350	acres
(b) Habitat Development:		
Impoundments (two)	73	acres
Level Ditching	200	acres
Total Habitat Development	273	acres

PARTNERS	CONTRIBUTION (CDN$)	
Canadian Wildlife Service	48 000	
Province of New Brunswick	52 000	
Private Sector:		
Ducks Unlimited Canada	114 760*	
Wildlife Habitat Canada	27 000	
Canadian Contributions (Subtotal)	241 760	(68%)**
United States Contributions	115 000	(32%)***
Total (CDN$)	**$ 356 760**	**

* $ 8 500 of the Ducks Unlimited Canada commitment remains to be spent on habitat development in 1991.

** Percent of total contributions.

*** Due to favourable United States/Canada exchange rates, $ 4 600 remains from the United States contributions. Options have been taken on additional acreage to use these funds in 1991.

SALT MARSH PROTECTION, NOVA SCOTIA

Salt marshes on upper portion of Chezzetcook Inlet, Nova Scotia

Photo: C. Rubec, NAWCC (Canada)

Project Description – In the last 300 years, 58% of Nova Scotia's salt marshes, once covering 74 000 acres, have been converted to other land users. The remaining low salt marsh areas (the *Spartina alterniflora* zone) are important to the marine food chain as well as to migrating and wintering Black Duck and Canada Goose. The high salt marsh areas (the *Spartina patens* zone) are important for brood rearing for Black Duck and Willet. The project was designed to test the feasibility for large-scale securement of such important salt marshes. The project area includes various salt marshes on Chezzetcook Inlet, Lawrencetown Lake, and Musquodoboit Harbour east of Halifax.

Goals – This First Step Project established three short-term goals as listed below. Habitat securement has been completed with development and management ongoing.

(1) Fund a pilot project to determine the feasibility of a long-term Salt Marsh Securement Program.

(2) Secure 250 acres of migration and wintering habitat.

(3) Develop 50 acres of breeding habitat.

Benefits of Project – Securement of critical salt marshes in Nova Scotia will preserve the ecological functions of one of North America's most important habitat types. These areas serve as waterfowl and shorebird migration habitats, feeding areas for Bald Eagle and Osprey, and prime breeding habitat for waterfowl. Government ownership will permit a planned approach to the integrated management of these resources.

Long-term Management – Following the completion of the securement phase of this project, a Management Plan will be completed to include designation of key salt marshes as Provincial Wildlife Management Areas. Impoundment development on selected high salt marsh portions also will increase nutrient exchange, enhance shorebird habitat, and increase waterfowl production.

Accomplishments to December 31, 1990:

(a) Habitat Securement - 257 acres

(b) The feasibility of a Salt Marsh Securement Program through a combination of acquisition and conservation agreements has been proven.

PARTNERS	CONTRIBUTIONS (CDN$)
Canadian Wildlife Service	14 000
Province of Nova Scotia	6 413
Private Sector:	
Wildlife Habitat Canada	9 872
Canadian Contributions (Subtotal)	30 285 (61%)*
United States Contributions	19 368 (39%)**
Total (CDN$)	**$ 49 653**

* Percent of total contributions.

** An additional United States contribution of $ 4 632 remains to be spent on lands already optioned for 1991 purchase.

TABLE 1: SUMMARY OF HABITAT SECUREMENT AND DEVELOPMENT TO DECEMBER 31, 1990

Project	Acres Secured	Acres Developed
PHJV Projects:		
(1) Buffalo Lake Moraine	2 532	*
(2) Quill Lakes	8 601	7 784**
EHJV Projects:		
(3) Matchedash Bay	1 199	—
(4) Baie-du-Fèbvre/Nicolet	865	—
(5) Grovepine/Big Brook	1 931	314
(6) Grand Lake Meadows	2 350	273
(7) Salt Marsh Protection	257	—
Total (Acres)	**17 735**	**8 371**

* Data is presented in the text on the number of sites developed.

** Additional habitat development areas undertaken by the Prairie Farm Rehabilitation Administration are not included here.

TABLE 2: SUMMARY OF EXPENDITURES TO DECEMBER 31, 1990

Project	Canadian Contributions (CDN$)	United States Contributions (CDN$)	Total (CDN$)
PHJV Projects:			
(1) Buffalo Lake Moraine	447 420	1 156 610	1 604 030
(2) Quill Lakes	2 663 846	2 015 583	4 679 429
EHJV Projects:			
(3) Matchedash Bay	1 045 000	731 100	1 776 100
(4) Baie-du-Fèbvre/Nicolet	373 600	197 300	570 900
(5) Grovepine/Big Brook	329 460	102 000	431 460
(6) Grand Lake Meadows	241 760	115 000	356 760
(7) Salt Marsh Protection	30 285	19 368	49 653
Total (CDN$)	**5 131 371**	**4 336 961**	**9 468 332**

TABLE 3: SUMMARY OF REMAINING MONIES COMMITTED FOR 1991 EXPENDITURES

Project	Canadian Contributions (CDN$)	United States Contributions (CDN$)	Total (CDN$)
PHJV Projects:			
(1) Buffalo Lake Moraine	—	—	—
(2) Quill Lakes	—	—	—
EHJV Projects:			
(3) Matchedash Bay	—	—	—
(4) Baie-du-Fèbvre/Nicolet	39 100	75 700	114 800
(5) Grovepine/Big Brook	—	—	—
(6) Grand Lake Meadows	8 500	4 600	13 100
(7) Salt Marsh Protection	25 000	4 632	29 632
Total (CDN$)	**72 600**	**84 932**	**157 532**